

Stationary Fuel Combustion Sources



Proposed Rule: Mandatory Reporting of Greenhouse Gases

Under the proposed Mandatory Reporting of Greenhouse Gases (GHGs) rule, owners or operators of facilities that emit 25,000 metric tons of GHGs per year or more (expressed as carbon dioxide equivalents) from stationary fuel combustion or that meet any other applicability requirements of the rule (see information sheet on General Provisions) would report emissions from stationary fuel combustion. Owners or operators would collect emission data; calculate GHG emissions; and follow the specified procedures for quality assurance, missing data, recordkeeping, and reporting.

How Is This Source Category Defined?

Under the proposal, stationary fuel combustion sources are devices that combust any solid, liquid, or gaseous fuel to:

- Produce electricity, steam, useful heat, or energy for industrial, commercial, or institutional use; or
- Reduce the volume of waste by removing combustible matter.

These devices include, but are not limited to, boilers, combustion turbines, engines, incinerators, and process heaters. Portable equipment or generating units designated as emergency generators in a permit issued by a state or local air pollution control agency would be excluded.

Facilities that contain stationary fuel combustion units, but do not contain a source in any other source category covered by the proposed rule, would not be required to submit a report if their aggregate maximum rated heat input capacity from all stationary fuel combustion units is less than 30 million British thermal units per hour (mmBtu/hr).

Electricity generating units that are subject to the acid rain program are covered under 40 CFR part 98, subpart D (Electricity Generation).

What GHGs Would Be Reported?

The proposal calls for facilities to report total carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O) emissions from each fuel combustion unit. For each unit, CO₂, CH₄, and N₂O emissions would be reported separately for each type of fuel combusted. In addition, facilities would report any CO₂ emissions from sorbent use in air pollution control equipment.

How Would GHG Emissions Be Calculated?

Under the proposal, the following methodologies would be used to calculate CO₂, CH₄, and N₂O emissions:

- Calculating CO₂ Emissions from Combustion
Facilities would calculate CO₂ emissions using four methodological tiers, subject to certain restrictions based on unit size and fuel burned (see flow chart on page 3):
 - Tier 1 uses an emission factor that is multiplied by annual fuel use and a default heating value for that fuel.
 - Tier 2 uses an emission factor that is multiplied by annual fuel use and a measured heating value of that fuel.

This document was developed for the *Proposed* Mandatory GHG Reporting Rule. For the final document, please visit the final [Mandatory Reporting of Greenhouse Gases Rule](#).

- Tier 3 uses a calculation based on annual fuel use and measured carbon content of that fuel.
- Tier 4 requires a continuous emissions monitoring system (CEMS).

Combustion units that have certain types of existing CEMS in place and meet specific criteria would be required to use the Tier 4 methodology. This might require certain upgrades to the existing CEMS in order to comply with the Tier 4 methodology. Those upgrades will depend on the fuel burned and the CEMS currently installed on a unit.

Combustion units that are subject to the reporting requirements under EPA's Acid Rain Program would continue to measure CO₂ mass emissions using the 40 CFR part 75 methods and would report CO₂ emissions by converting the cumulative fourth quarter CO₂ emissions from short tons to metric tons.

- Calculating N₂O and CH₄ Emissions From Combustion
Most units would use an emission factor that is based on annual fuel use and heat value of fuel (using a default value prescribed in the rule if a measured heat value is not available). Units covered under EPA's Acid Rain Program and other units that monitor and report annual heat input under 40 CFR part 75 requirements would use an emission factor and the measured annual heat input.
- Calculating CO₂ Emissions From Sorbent Use
Fluidized bed boilers and units equipped with a wet flue gas desulfurization system or sorbent injection would use the calculation procedure provided in the rule to estimate CO₂ emissions from sorbent use.
- Calculating Biogenic CO₂ Emissions From Biomass Fuel Combustion
Facilities would estimate biogenic CO₂ emissions from the combustion of biomass fuels by choosing from among the same methodologies used for calculating CO₂ emissions from fossil fuel combustion, subject to certain restrictions based on the type of biomass fuel burned.
- Sampling and analysis of heating value and carbon content would be conducted monthly, weekly, or daily depending on the fuel and the size of the combustion unit.

What Information Would Be Reported?

In addition to the information required by the General Provisions at 40 CFR 98.3(c), the proposal calls for facilities to report the following information:

- Facilities would report annual mass emissions for each GHG for each combustion unit. Emissions can be aggregated among multiple units under the following conditions:
 - Small units that have a combined maximum rated heat input capacity of 250 mmBtu/hr or less.
 - Units that share a common stack and use CEMS.
 - Oil-fired or gas-fired units that combust the same fuel, and the fuel is fed through a metered common pipe.
- Besides the GHG emissions estimates, facilities would report the measured inputs used in the emissions calculations (e.g., fuel use, carbon content, heating value), and all certification tests and major quality assurance tests for units using CEMS.
- Existing facilities that are required to report emissions from stationary combustion sources only (and no other source categories) would be able to submit an abbreviated emissions report for the first reporting year using simplified calculation methods.

For More Information

This document was developed for the *Proposed* Mandatory GHG Reporting Rule. For the final document, please visit the *final* [Mandatory Reporting of Greenhouse Gases Rule](#).

This series of information sheets is intended to assist reporting facilities/owners in understanding key provisions of the proposed rule. However, these information sheets are not intended to be a substitution for the rule. Visit EPA's Web site (www.epa.gov/climatechange/emissions/ghgrulemaking.html) for more information, including the proposed preamble and rule and additional information sheets on specific industries, or go to <www.regulations.gov> to access the rulemaking docket (EPA-HQ OAR-2008-0508). For questions that cannot be answered through the Web site or docket, call 1-877-GHG-1188.

General Stationary Fuel Combustion Requirements for CO₂ Proposed 40 CFR 98 Subpart C

